

## 9/25/2018 Agenda

- Electrodes
  - 3D Printed Electrodes will be here Wednesday or Thursday
  - Schedule time to make conductive paint
  - Buying conductive paint
    - Silver Paint from PDF  
<https://au.element14.com/electrolube/scp03b/paint-conductive-scp-silver-3g/dp/725614>
    - Silver Paint  
<https://www.ebay.com/i/263617444656?chn=ps>
  - Gold Cup Electrodes
    - Cheap Disposable Cups  
<https://mfimedical.com/products/rhythmink-disposable-deep-eeeg-cup-electrode?variant=19994432067>
    - <https://mfimedical.com/products/technomed-disposable-eeeg-cup-electrode>
    - Reusable Gold Cup  
<https://www.ebay.com/itm/Gold-Cup-EEG-Electrodes-Teflon-Molded-End-72-Inch-10-pack-Multicolor/283171041444?hash=item41ee4f30a4:g:26EAAOSwl3xbo7Ny>
  - Silver Cup Electrodes
    - <https://www.electrodestore.com/products/wbt-dsc-detachable-eeeg-disc-electrodes>
      - Only the cups 100 for \$45, \$12.50 Shipping, \$4.49 sales tax
  - DIY Electrodes
    - <http://openeeg.sourceforge.net/builddeeg/electrodes.php>
    - <http://openeeg.sourceforge.net/doc/gallery/nelo/electrodes.jpg>
- Develop a schedule
- Who wants to do the Products Requirement Document? Due Thursday

## Meeting Minutes:

### 1. Electrode Selections

- a. Gold cup - \$15 + 8 per pack (total for 20 is \$46)
  - i. OpenBCI - \$30 per 10 pack, \$11 shipping and sales tax
- b. Silver cup - \$70ish for 100 (not including connectors)
- c. NOTE: Need to purchase materials from consistent sellers. Final product must be consistently reproducible.
- d. Testing - buy different electrodes to test:
  - i. Buy from wherever, doesn't have to be reproducible
  - ii. Disposable Deep cup Electrode - \$18
  - iii. Gold Cup electrodes \$22
  - iv. Conductive paint/3D printed electrodes - free for 3D Printing - \$20 for paint - handmade paint?
    1. Charcoal is recommended for low voltage DC
    2. Silver Conductive paint needs to be purchased
  - v. Handmade electrodes - ???

### 2. Testing:

- a. Assign each person two electrodes:
  - i. AJ - Disposable electrodes
  - ii. Corey - 3D Printed ones - conductive paint
  - iii. Ostin - DIY ones
  - iv. Gao - Gold Cup - ask for samples from suppliers
- b. Test Design:
  - i. Each person hook up their electrodes to an oscilloscope with one as a reference signal
  - ii. The threshold for noise is anything below 2mV.

### 3. Timeline:

- a. 2-3 weeks electrode chosen (or on hold)
- b. Amplifier with software versus hardware -
  - i. Can focus on if electrode testing runs longer
- c. Read a chapter per week-
  - i. Ostin - Chapter 2

### 4. Next Meeting:

- a. Ostin present Chapter 2
- b. Discuss electrode progress
- c. Go over different microcontrollers
- d. Go over what we need for the snapshot day

### 5. Product Requirement Document - Due Thursday

- a. AJ - 1-4
- b. Ostin - 5, 8, 9
- c. Corey - 6,7
- d. Gao - 10, 11
- e.

## 6. Gao - Sample Request

Hello,

We are on a team at the University of Idaho working on a low cost EEG. We are currently looking into different types of electrodes to use.

We would like to try some of your Gold Cup Electrodes before we purchase a set. Would you be willing to send us a sample pair?

You can reach me at [elli7374@vandals.uidaho.edu](mailto:elli7374@vandals.uidaho.edu) for any questions.

Thank you,

Allison Ellingson